CrossTalk

Issue 62:06 62 Years Of Service To Our Community June 2021

2021 Club Officers

President :	**Anthony Starr, K3TS**
Vice President :	**Jeffrey Welsh, KD2AZI**
Treasurer :	**Alan Arrison, KB2AYU**
Recording Secretary :	**Karl Frank, W2KBF**
Corresponding Secretary :	**Ronald Block, NR2B**

Trustees - 4 year term

Charles Lanard, KD2EIB	***(2018-2021)***
James Wright, N2GXJ	***(2019-2022)***
Mark Gottlieb, KK2L	***(2020-2023)***
Robert Fields, KC6AOH	***(2021-2024)***

Board of Directors - 3 year term

Jeffrey Garth, WB2ZBN	***(2019-2021)***	**Herb Dyer, KT2Y**	***(2020-2022)***
James Clark Sr, KA2OSV	***(2021)***	**Charles Colabrese, WA2TML**	***(2021-2023)***
Robert Durham, W2RAD	***(2020-2022)***	**William Price, NJ2S**	***(2021-2023)***

This Month's Calendar

General Membership Meeting
Wednesday, June 2, 2021 @ 1930
Live & In-Person
Pfeiffer Community Center
PIZZA NIGHT

Tech Saturday Forum
Saturday, June 5, 2021 @ 0900
W2MMD Clubhouse

Board of Directors ZOOM Meeting
Wednesday, June 16, 2021 @ 1900

Field Day 2021
Saturday & Sunday, June 26 - 27, 2021

Monday Night 2 Meter Digital Training Net
Every Monday @ 1900

Tuesday Night 10 Meter Rag Chew Net
Every Tuesday @ 2000 - 28.465 MHz

Tuesday Morning 2 Meter Rag Chew Net
Every Tuesday @ 1100

Thursday Night 2 Meter Rag Chew Net
Every Thursday @ 2000

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General Membership Meeting

Wednesday, June 2, 2021 @ 1930 Hours

Live & In-Person Pizza Party

Pfeiffer Community Center

Williamstown, NJ

The Meeting Will Also Be Broadcast Live Via ZOOM
All members will be e-mailed the ZOOM log-in instructions

Museum Ships Weekend 2021
0001Z June 5 through 2400Z June 6, 2021

The Battleship New Jersey Amateur Radio Club is sponsoring the Annual Museum Ships Weekend Event

Go to www.nj2bb.org/museum for more information

President's Message

Here it June already, and good timing is once again working in our favor. Our illustrious governor has graciously lifted many of the restrictions on public gatherings, and with many of our members feeling a bit safer due to the widespread availability of the COVID vaccines, we are good to go with our first live meeting of the year, and of course, **Field Day!**

The live meeting and ***Pizza Party*** will be held at the **Pfeiffer Community Center** on June 2nd, which at the time of this writing, is rapidly approaching. I for one am looking forward to seeing everyone come out for these events, and getting back to the business of doing what we do best, which is being the most active and fun general-interest radio club in South Jersey. We have a number of other fun events planned as the summer progresses, and hopefully we can get these all in without any of the severe restrictions of last summer.

So if you missed **Field Day** last year, here is your chance to get back into it. We will need operators around the clock, so just come out at whatever time is convenient for you. There is also always a need for help with the setup on Saturday morning and the tear down on Sunday afternoon, so those times are good as well. The main thing about **Field Day** is to just show up. If we could get half of our membership to just do that, we would have a **Field Day** of epic proportions.

There has been some great progress with the improvement projects at our Clubhouse. The **Lightning Protection Project** is really coming together nicely now, and we will soon have legal-limit solid state power in the HF station. The first Tech Saturday Open House was a great success, and the turnout was good. Our tech committee is doing a great job with projects, and getting things to just work better. We will also be needing to replace the rotator on the big HF Yagi, due to a failure of the old one during high winds. This was not a planned expenditure, but it is a necessary one. As you might know, it is better to take care of these problems in the summer if possible, and that is what we plan to do. One thing is for sure, our HF station will be in tip-top shape come the fall and winter DX and contest season, thanks to our great all-volunteer workforce who keep it that way. I am looking forward to hearing the even bigger signal of **W2MMD** on the air later this summer and in the fall.

I am pleased to see that we still have a steady flow of new member applications each month, and that most of our membership has renewed their dues for another year. This month we welcome **Jim McDonald, WB2AOL**, a returning member and old high school chum of mine, who now lives in Columbus, OH. We also welcome **Art Olson, N2AJO**, from Brick NJ; and **Gary Kinney, KC2ULS**, from Medford NJ. That we continue to attract new members, with many from outside our immediate area, is a testament to the fact that as a Club, we are doing things right and capturing the interest of many who are involved with the hobby now, and that GCARC is as relevant today as it was 62 years ago.

That is all I have for this month, but I hope to see everyone out for the June meeting and pizza party. And don't forget to tell your spouse and family that all home projects and family events planned for the last full weekend in June will need to be re-scheduled! Looking forward to a great turnout for Field Day, and I do so hope that we win our class this year. 73!

de K3TS

Welcome New Club Members :

Gary Kinney, KC2ULS, who has a General Class license and lives in Medford, NJ.
Arthur Olson Jr, N2AJO, who has an Amateur Extra Class license and lives in Brick, NJ.

Welcome Back Club Member :

James McDonald Jr, WB2AOL, who has an Advanced Class license and lives in Columbus, OH. Jim was a former Club member who started in 1977. His late father, **James McDonald Sr, N2AIV (WB2AOL)** was also a Club member from 1977 until his passing in 1993.

We are glad to have you as members of the Club and hope to see you regularly at Club meetings, events, and activities. We hope to hear you on the Monday night 10M Rag Chew Net. Also on the Monday night Digital Training Net, the Tuesday mornings and Thursday nights 2M Rag Chew Nets on our 2M Repeater or Echo-Link node : W2MMD-R.

Club Elmers

We are still looking for some more Club Elmers. If you would to add your name to the Elmer's List, send your specialty to w2mmdgcarc@gmail.com. Here is what we have so far :

- **Tony Starr, K3TS : Antenna construction, contesting, and CW**
- **Ken Bozarth, KN2U : Antennas**
- **Jeff Welsh, KD2AZI : Boat anchor repair and operation, Raspberry Pi, Arduino, Python, POTA, Mobile Installation & Operating**
- **Karl Frank, W2KBF : Digital Messaging (FLDIGI, Winlink)**
- **Herb Dyer, KT2Y : DMR radios and programming**
- **Ron Block, NR2B : Lightning protection and grounding**

Need a ride to a Club meeting, event, or activity?

Just send a message to the Club's e-mail reflector asking if a member can pick you up

GCARC <*at*> MAILMAN <*dot*> QTH <*dot*> NET

All Club members have access to this FREE e-mail service

w2mmd.org

www.facebook.com/W2MMD

twitter.com/w2mmd_gcarc

Facebook

Tech Saturday Forum
June 5, 2021 @ 0900 Hours
W2MMD Clubhouse

Pre-Field Day Meeting

Q&A Open Session and Socializing

We would like to invite all of our new members as well as our veteran members to our Tech Saturday Forums to help answer any questions and discuss any and all issues the new members have come across as they progress through the ***Amateur Radio Experience.***

The Discussion Theme is a QSO starting point - a way to initiate a conversation. All Tech Saturdays are an open QSO of all subjects of Amateur Radio interest.

All questions are welcome as well as a venue for hams to show off their latest ham radio projects or gadgets. Have a problem programming that HT, we can help! Not sure what radio or antenna to buy, we can help!

All Club Members who would like Clubhouse access to use its radio equipment would have to have some brief "Elmering" on the Clubhouse rules, such as using the alarm system, the A/C and heaters, the antenna system, and the radio equipment.

All are welcome - Hams and Non-Hams - Club Members and Non-Club Members. Take a guided tour of our Clubhouse. Visit our HF and VHF/UHF/Satellite Operation Facilities and our vast antenna farm.

DA's and DIT's

>>**Gary Reed, N2QEE,** reports : After hearing from the ARRL VEC, here is what's happening. The session will be held as normal but each candidate must have an FCC Registration Number to participate in the session as of May 20. Social security numbers will no longer be accepted. For a license upgrade or vanity call if you already have a license you have an FRN. The new 605 form will reflect this information. After June 29 all applications must include an email address for FCC correspondence. Applicants will receive an email direct from the FCC with a link to the official electronic copy of their license whenever a license is issued or changed. The ARRL VEC suggests that those without access to email to use the email address of a family member or friend. Licensees will be able to log in to the ULS using their FRN and password to download the latest version of their license at any time. The FCC no longer provides paper license documents. At this time the FCC hasn't made a decision on how they will handle the $35 fee. The fee will be associated with each 605 application form. If a candidate passes an exam at the session they are still able to take the next level without an addition fee. At this time the Franklin Township Community Center isn't open to outside organizations, but each group must reapply to be added to the schedule for future full opening.

>>**Darrin Malone, KD2ALQ,** reports : There was a VE session on April 24, 2021 at the Vineland OEM. There were 4 candidates with all 4 passing the Technician Class exam :

- Edward Ward III, KD2WGV, of Mantua
- Joseph Williams, KD2WGW, of Maple Shade
- Jad Skaf, KD2WGX, of Mickleton
- Ronda Bishop, KD2WGY, of Vineland

The VE team is : **Darrin Malone KD2ALQ**; **Mike Harla N2MHO**; **Wade Anastor WA2EUX**; and **Ralph Sangataldo W2HVH**.

Darrin also reports they are planning a class/test for the fall. No dates yet.

>>Congratulations to Associate Club member **Jad Skaf, KD2WGX**, for passing his Technician Class exam on April 24, 2021. Welcome to the wonderful world of Amateur Radio. Hope to see you on the 2 Meter nets.

>>Condolences to Club member **Kevin Hall, KD2FFZ**, for the passing of his mother-in-law.

>>Condolences to the family and friends of **Ken Hartley. N2OHD** on his recent passing. Ken was the manager of HRO in Delaware.

>>Get well to the XYL of Club member **Mario Tagliaferri, W3CGS**, who recovering from recent hip surgery.

>>Congratulations to **Kyle Townsend, W2KBT**, who just graduated from High Point University. Kyle is the son of Club member **Mark Townsend, W2OC**.

>>***"Attenzione"*** **-** The Sunday Night Skywarn Net time has been changed from 1945 Hours to **1930 Hours**.

>>Get well to Club Trustee **Bob Fields, KC6AOH**, who is recovering after getting a new pacemaker.

>>Get well to Club member **Mary Delemarre, W2TDS**, who is recovering from hip replacement surgery.

Southern NJ Section News : June 2021

Tom Preiser N2XW SNJ Section Manager
n2xw@arrl.org

Field Day is just around the corner. Many clubs will be having Field Day out in the field, which is good to hear. Myself and Tom Devine WB2ALJ SNJ Emergency Coordinator will be visiting those clubs that are participating. Remember you can get extra points by sending a message to the Section Manager. This can be done via radiogram through a traffic net or try sending an email via Winlink. I am looking forward to hearing from as many of the clubs as possible.

Congratulations to Bob Schenck N2OO who was part of a documentary on PBS. For more than 80 years, investigators have tried to figure out what caused the spark that led to the Hindenburg going up in flames as it prepared to land at Lakehurst Naval Air Station in 1937.

"Hindenburg : The New Evidence" will be available for streaming online, according to the network. The new look at the May 6, 1937 disaster was prompted by a conversation at the 80th anniversary commemoration outside Hangar One, of the fires and crash that killed 35 people on board and one person on the ground. Dan Grossman, a renowned expert on airships including the Hindenburg, was approached at the commemoration by Robert Schenck, a New Jersey resident whose uncle, Harold N. Schenck, had filmed the disaster. Though Harold Schenck tried to share his amateur film - which shows the disaster from a different angle than the newsreel films - with government investigators at the time, it was largely overlooked, his nephew says in the "Nova" film.

The "Nova" documentary not only shares the footage, which provided new clues to re-examine the cause of the explosion, but the scientific experiments that helped investigators come to a fresh understanding of what set off the fire.

The original investigations into the Hindenburg crash concluded the fire was a result of leaking hydrogen ignited by a spark, but no one had been able to determine what caused the spark. Eyewitness accounts suggested the fire started near the tail of the airship, but supporting evidence was hard to find until the unseen Schenck footage was examined. Newsreel recordings of the disaster begin after the fire is well underway, and most physical evidence was destroyed immediately in the blaze.

Grossman has the footage authenticated as part of the investigation. "Thanks to this stunning new footage, we were able to revive a cold case investigation surrounding one of the most iconic disasters of the 20th century," said Gary Tarpinian, the film's executive producer. Definitely a story worth watching.

CONGRATS TO VOLUNTEER DAVE BURGESS WA2TVS ON WINNING THE ANNUAL JASON HALL AWARD

The annual Jason Hall Award was awarded to volunteer Dave Burgess WA2TVS during the Battleship NJ's Annual Volunteer Lunch on Saturday, May 1, 2021. Dave, a Navy veteran, has volunteered with his wife, Margaret, on the Battleship New Jersey Amateur Radio Station (BNJARS) since March 2001. Dave, a founding member of BNJARS and the Chief Engineer with the station, has also coordinated the Museum Ships Weekend for the Battleship, which joins over 100 museum ships in this annual radio event. More recently, Dave coordinated efforts to get the air search radar at the very top of the Battleship to come to life. The radar now continuously spins every day.

SNJ Section News - Continued on page 8

SNJ Section News - Continued from page 7

The annual Jason Hall Award is presented to an outstanding volunteer who went over and above to help the ship. Jason Hall was the Battleship's Curator, who succumbed to cancer several years ago.

HAMFESTS ARE BACK
On July 3,2021 - Firecracker Hamfest, ARRL Pennsylvania State Convention. Location: Harrisburg, Sponsor : Harrisburg Radio Amateurs Club. Website : **http://www.w3uu.org**

Mark your calendars for the SNJ Section Convention and 43rd Annual Hamfest, Sunday, September 12, 2021 at the Gloucester County 4-H Fairgrounds. **http://www.w2mmd.org**

Club Member DXCC Standing

Name/Callsign	DXCC
Bill Grim, W0MHK	352
Dave Strout, W2YC	349
Darrell Neron, AB2E	328
John Hill, W2HUV	252
Ken Denson, WB2P	248
Vinnie Sallustio, N4NYY	220
Tony Starr, K3TS	208
Dennis Sandole, K2SE	204
Jim Wright, N2GXJ	179
Sheldon Parker, K2MEN	161
Eric Morris, N2BRJ	127
Howard Marder, WA2IBZ	120
Christopher Wawak, KC2IEB	120
Phil Nunzio, WA3RGY	116
Chuck Capasso, WB2PGE	103
Curt Myers, K2CWM	71
Jim Clark, KA2OSV	68
Lee Marino, N2LAM	35

Contact Vinnie N4NYY if you would like to be added to the DX HONOR ROLL

Digital Training Net
147.180 MHz Repeater & EchoLink : W2MMD-R
Every Monday @ 1900 Hours

Gary WA3SVW and Bob KD2NEC are conducting a training series on FT8.

The third series will be on **WINLINK**, start date to be determined later. **Bob KD2NEC** suggests viewing **K4REF** videos on YouTube for information about **WINLINK** : **https://www.youtube.com/user/K4REF/videos**

Below is a link to an FT8 Operating Guide written by Gary Hinson ZL2IFB and some FT8 YouTube videos suggested by **Steve W2SEF** :

https://www.g4ifb.com/FT8_Hinson_tips_for_HF_DXers.pdf

Getting started with FT8 : https://youtu.be/XkoQ9FD5KX8
Playing on FT8 and WSPR HF Digital Modes : https://youtu.be/EimvUVWsGI4
FT8 Intro & Tutorial : https://youtu.be/ZmXQs17Mi5I
15 Things I've Learned About FT8 : https://youtu.be/BcInFASJUd4

Tuesday Morning 2M Rag Chew Net
1100 Hours
Net Control Hosts : Steve, W2SEF & Greg, W5DO
147.180 MHz Repeater & EchoLink - W2MMD-R
If you would like to be a control operator for this net, please contact Steve, W2SEF

Thursday Night 2 Meter Rag Chew Net
147.180 MHz Repeater
EchoLink : W2MMD-R
Every Thursday @ 2000 Hours

This net has an alternating net control operator
Here is the schedule for the upcoming weeks

Greg Ciraula, W5DO : June 3, 2021
Mary Delemarre, W2TDS : June 10, 2021
Steve Farney, W2SEF : June 17, 2021
Gary Mirkin, WA3SVW : June 24, 2021
Jeff Garth, WB2ZBN : July 1, 2021
Greg Ciraula, W5DO : July 8, 2021
Mary Delemarre, W2TDS : July 15, 2021
Steve Farney, W2SEF : July 22, 2021
Gary Mirkin, WA3SVW : July 29, 2021
Jeff Garth, WB2ZBN : August 2, 2021

If anyone would like to be a net control operator, please notify Jeff WB2ZBN

Regional (Atlantic & Hudson Divisions) Hamfests & Events

June 5, 2021 : Rochester Amateur Radio Association, Rochester Hamfest 2021, Hilton Exempts Fireman's Field, 137 South Avenue, Hilton, NY. **www.rochesterham.org** ***** CANCELLED *****

June 5, 2021 : Fair Lawn Amateur Radio Club, Fair Lawn Amateur Radio Club (FLARC) Hamfest, Fair Lawn Recycling Center, 19-25 Saddle River Road, Fair Lawn, NJ. **www.fairlawnarc.org**

June 6, 2021 : Long Island Mobile Amateur Radio Club, Long Island Hamfest & Electronics Fair, 1055 Stewart Avenue, Bethpage, NY. **www.limarc.org**

June 12, 2021 : Skyline Amateur Radio Club, SARC Summer Hamfest, Cortland County Fairgrounds, 4301 Fairgrounds Drive, Cortland, NY. **www.skylineradioclub.org**

June 12, 2021 : Columbia-Montour Amateur Radio Club, CMARC 2021 Hamfest, Lime Ridge Community Center, 6405 4th Street, Lime Ridge, PA. **www.qsl.net/cm-arc** ***** CANCELLED *****

June 20, 2021 : Baltimore Amateur Radio Club, BARC Father's Day Hamfest & Marketplace, Arcadia Volunteer Fire Company Grounds, 16020 Carnival Avenue, Upperco, MD. **www.w3ft.com**

QSO Today Virtual Ham Expo
August 14 - 15, 2021
https://www.qsotodayhamexpo.com

ARRL SNJ Section Convention and Hamfest

Presented By The

Gloucester County Amateur Radio Club
W2MMD

Celebrating Our 62nd Year

www.w2mmd.org

Open to the public at 8 AM

43rd Annual Hamfest - September 12, 2021

2021 Clubhouse Projects

Shed :

- **Clean Out Shed - DONE**
- **Paint Siding**
- **Install Electrical Wiring**
- **Install Lights**
- **Build Ramp**
- **Secure Roof**

Power Washing :

- **Trailer Siding**
- **Back Steps**

Painting :

- **Front Steps**
- **Back Steps**
- **Power Pole**
- **Club Sign**

Generator :

- **Replace/Fix Radiator**
- **Perform Maintenance**

Front Flood Lights :

- **Adjust Lights**

Back Steps :

- **Spray Mold**
- **Power Wash**
- **Paint**

Replace Front Door & Screen Door

Replace Toilet : WB2ZBN : Project in process. Getting estimates to present to the BoD and membership

We have a 5 gallon bucket of white paint in the Clubhouse. I have a power washer at home that I can bring to the Clubhouse for someone to use. For more information about these projects, please contact Jeff WB2ZBN.

Intro To DMR

By Herb Dyer, KT2Y

A few years ago, I bought a DMR radio, and wrestled with it for countless hours to get it set up. Since most of the DMR radios sold are from China, the documentation is critical. (and worthless of course). Imagine how many 30 buck paper weights we would own if we had to depend on the ESL manual to program a Baofeng. DMR has created a new terminology that obfuscates known radio and digital concepts and this creates a needless learning curve IMHO. I found this video and then it made sense. And had my radio programmed an hour later. For anyone that wants to know what it is, or how it works, this video by the Old Tech Guy KB9RLW saved me a lot of time.

https://www.youtube.com/watch?v=5ZawJek5z9c

The W1UL Ham Cram Website

www.ham-cram.com

Field Day - June 26 - 27, 2021
Starting Lineup

Band	Operator	Mode
Satellite		Phone
Satellite		CW
Satellite		Digital
70 Centimeters		Phone
70 Centimeters		CW
70 Centimeters		Digital
2 Meters	Herb Dyer, KT2Y	Phone
2 Meters		CW
2 Meters		Digital
6 Meters	Al Arrison, KB2AYU	Phone
6 Meters		CW
6 Meters		Digital
10 Meters		Phone
10 Meters		CW
10 Meters		Digital
15 Meters	Jim Wright, N2GXJ	Phone
15 Meters		CW
15 Meters	Jim Wright, N2GXJ	Digital

Field Day 2021 Band Chart - Continued on page 13

Field Day 2021 Band Chart - Continued from page 12

20 Meters	Eric Morris, N2BRJ Harry Elwell, K2ATX	Phone
20 Meters	Tony Starr, K3TS	CW
20 Meters		Digital
40 Meters	Vinnie Sallustio, N4NYY Ken Denson, WB2P Herb Dyer, KT2Y	Phone
40 Meters	Harry Bryant, AA2WN Sheldon Parker, K2MEN Gene Schoeberlein, AA2YO Dennis Sandole, K2SE	CW
40 Meters	Jim Wright, N2GXJ Sheldon Parker, K2MEN	Digital
80 Meters	Jim Clark Sr, KA2OSV	Phone
80 Meters	Tony Starr, K3TS	CW
80 Meters		Digital
160 Meters	Eric Morris, N2BRJ Harry Elwell, K2ATX	Phone
160 Meters		CW
160 Meters		Digital
GOTA (Get On The Air) Station		20 QSOs/20 Points 100 Points Max

Field Day Chairman - Vinnie Sallustio, N4NYY
yankees_1996*(at)*hotmail*(dot)*com
Chart updated as of March 31, 2021

Field Day - June 26 - 27, 2021
Support Staff and Bonus Points Information

Public Location	Gloucester County 4-H Fairgrounds	100 Bonus Points
Safety Officer Checklist	Herb Dyer, KT2Y	100 Bonus Points
Public Information Table		100 Bonus Points
Culinary Staff	Jeff Garth, WB2ZBN Karl Frank, W2KBF	*Priceless !!!*
Collect/Submit Electronic Logs	Jim Wright, N2GXJ	50 Bonus Points
Off-Grid Power		100 Points /Transmitter
Main Backup Generator		100 Points /Transmitter
Alternative Power	Herb Dyer, KT2Y	100 Bonus Points
Educational Activity		100 Bonus Points
Field Day Youth Participation		20 Points Bonus 100 Points Max
Media Publicity		100 Bonus Points
Social Media		100 Bonus Points
Message Origination To Section Manager		100 Bonus Points
Copy W1AW Field Day Message		100 Bonus Points
NTS/ICS-213 Message Handling		10 Points/Message 100 Points Max
Site Visit - Invited Elected Official		100 Bonus Points
Site Visit - Invited Served Agency Official		100 Bonus Points
Satellite QSO	GCARC SkunkWorks Team	100 Bonus Points

Field Day Chairman - Vinnie Sallustio, N4NYY
yankees_1996*(at)*hotmail*(dot)*com
Chart updated as of March 31, 2021

KB6NU's Ham Radio Blog

Are you ready for the new RF exposure evaluation regulations?

By Dan Romanchik, KB6NU

On Tuesday, April 27, Dan, W1DAN, ARRL Eastern Massachusetts Section Technical Coordinator, gave a Zoom presentation on the latest FCC regulations on RF exposure evaluation. These are spelled out in **FCC-1926A1 (https://www.fcc.gov/document/fcc-maintains-current-rf-exposure-safety-standards)**, "Proposed Changes in the Commission's Rules Regarding Human Exposure to Radiofrequency Electromagnetic Fields; Reassessment of Federal Communications Commission Radiofrequency Exposure Limits and Policies." The document is as long as the title might suggest - 159 pages - but W1DAN boiled it down, focusing on what these changes mean for radio amateurs.

A recording of the presentation can be viewed by going to : **https://drive.google.com/drive/folders/1_qIGZhHyMrha-axJt87Dcu0UZuJO0t8F**.

After explaining how RF exposure can be harmful, Dan explained how the rules are changing : The biggest change, he notes, is that amateur radio's categorical exclusion has been eliminated. What this means is that now every radio amateur will have to perform an RF exposure evaluation of their stations. This now includes mobile and portable stations, including HTs, SOTA/POTA stations, and Field Day and special event stations.

He noted that you must be able to prove that your station is safe. This includes not only performing the evaluation, but also documenting these evaluations, should this data be requested by FCC personnel.

One thing that's not changing are the maximum permissible exposure (MPE) limits. These are spelled out in **FCC OET Bulletin 65 (https://transition.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet65/oet65.pdf),** "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields." The FCC published this document in August 1997, but it's still the Bible when it comes to RF exposure. If you don't have a copy, or have never taken a look at it, you really should do so.

Be careful, though, when reading it. It contains a table (Table 1 on p. 21) that contains a list of output powers at various frequencies. If your station exceeded those limits, then you were required to perform an RF evaluation. Now, however, all amateurs (and other radio services, for that matter) must perform RF exposure evaluations if their output power exceeds 1 mW. We are no longer categorically excluded from performing these evaluations.

OET Bulletin 65 goes on to give guidance on how to calculate or measure exposure levels. Explaining how to do this is outside the scope of this article, but again, you'll want to refer to the bulletin for more information.

KB6NU's Ham Radio Blog - Continued on page 16

KB6NU's Ham Radio Blog - Continued from page 15

Besides the elimination of the categorical exclusion for amateur radio stations, what else is new is the dates on which amateur radio stations must perform evaluations. They are :

- May 3, 2021(!!) for new and modified stations
- May 3, 2023 for stations that complied under the old rules

Having said all that, the **ARRL's RF Exposure page (http://www.arrl.org/rf-exposure)** has a lot of resources to help you understand this topic and perform your own RF exposure evaluations :

- An RF-exposure **FAQ (http://www.arrl.org/files/file/Technology/RFsafetyCommittee/RFXFAQ.pdf)** to help hams understand the new rules
- "Learning to Live with **RF Safety (http://www.arrl.org/files/file/protected/Group/Members/Technology/tis/info/pdf/QST_Mar_2009_p70-71.pdf)**," QST March 2009 pp. 70-71
- RF Safety at **Field Day (http://www.arrl.org/files/file/Technology/tis/info/pdf/9906048.pdf)** QST, June 1999, pp. 48-51. A case study of Field Day with NSRC in a public park
- **RF Exposure Station Evaluation and Exemption Worksheets (http://www.arrl.org/files/file/Technology/tis/info/pdf/rfex1_2.pdf)**
- **RF Exposure and You (http://www.arrl.org/files/file/Technology/RFsafetyCommittee/RF%20Exposure%20and%20You.pdf).** This 8 Mbyte PDF file contains the text of the entire book by Ed Hare, W1RFI
- **Chapter 5 References (http://www.arrl.org/files/file/Technology/tis/info/pdf/RF%20Exposure%20Chapter%205.pdf)** needed for filling out worksheet

There are also links to FCC web pages with information on RF exposure.

I'm sure we'll all be hearing more about this in the days ahead. Hopefully, someone will come out with a simple way to do the modeling or make the calculations. As always, play safe.

==========

Dan Romanchik, KB6NU, is the author of the KB6NU amateur radio blog (**KB6NU.Com**), the "No Nonsense" amateur radio license study guides (**https://KB6NU.Com/study-guides**), and often appears on the ICQPodcast (**https://icqpodcast.com**). When he's not doing RF exposure evaluations, he teaches online ham radio classes and operates CW on the low end of the HF bands.

Fox Hunt XXI : Taking Fox Hunting To New Heights

By Jim Wright, N2GXJ

One week after the radio direction finding instruction and practice held during Tech Saturday at the Clubhouse, it was time to take to the field what we'd practiced. Hint: it didn't help. Frank was particularly devious as the fox. Nobody had found him after an hour looking, so he started giving out clues. He wasn't kidding when he said the transmitter is with the car in a high spot. Us hunters kept seeing each other, passing in opposite directions and making U-turns on the road as we narrowed in on the area of strongest signal, retracing and criss-crossing our paths until we ended up in downtown Woodbury.

Why were we having so much trouble? A picture is worth a thousand words. It turns out that a 146 MHz radio signal bounces off of solid objects real good. And who was thinking to look up?

Congratulations to Al KB2AYU, first to find the Fox after walking several blocks to home in on the transmitter's location from where he parked his car. Maybe this was a little too hard. Next time, perhaps we'll try a simple walking hunt, similar to what we done during the training exercise out at the Clubhouse. What do you think?

Order of finish :

Frank, N3PUU - The Fox

1. Al, KB2AYU
2. Jim, N2GXJ
3. Lenny, W2LJR and Rusty
4. Rich, KD2WDN and Marc, KC2VAR
5. Karl, W2KBF and XYL Susan, W6SKT
6. Sheldon, K2MEN

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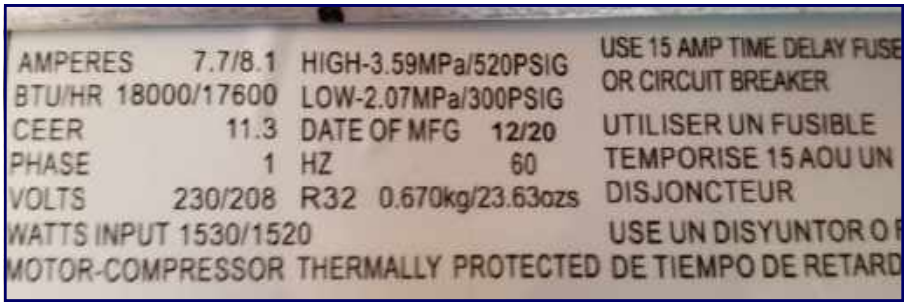
Fox Hunt XXI - Continued from page 17

The "Fox" parked high atop the parking garage at the corner of Cooper Street and Hendrys Court in Woodbury

Frank N3PUU ("The Fox") giving out clues to his lofty perch

New Clubhouse Air Conditioner



Approaches to Tackle Noise Problems Vary, Remedies Elusive

RF noise is a frequent discussion topic among radio amateurs. A proliferation of electronics has cluttered and complicated the noise environment; it's not just power lines anymore. Unless isolated from civilization, most hams experience RF interference (RFI) - sometimes without even realizing it, although spectrum scopes on modern transceivers make RF noise much more apparent. Various approaches to address the apparently worsening noise floor have been taken around the world, some addressing lax regulation.

"We all want to enhance our ability to copy the weak ones by increasing our signal-to-noise ratio," Alan Higbie, K0AV, said in his March/April NCJ article, "Tracking RFI with an SDR One Source at a Time." He suggests practical methods for individual radio amateurs to improve their own noise environment. "We can do that by reducing the noise on each band that we operate. Lowering the noise floor increases the relative signal strength of weak signals. Those in typical residential environments find that locating and eliminating RFI sources is a never-ending process. It is much like weeding a garden."

The **International Amateur Radio Union (IARU - https://www.iaru.org)** warns against complacency. "Radio amateurs cannot sit back, because even if the desired noise limits are agreed, there are many rogue manufacturers and dealers who will happily sell noise-generating devices, leaving out filter circuits to cut costs," IARU said in a statement. IARU has urged member-societies to get involved.

The **FCC Technological Advisory Council (TAC - https://www.fcc.gov/general/technological-advisory-council)** - a Commission advisory group - initiated an inquiry **(https://transition.fcc.gov/Daily_Releases/Daily_Business/2016/db0615/DA-16-676A1.pdf)** in 2016 looking into changes and trends to the radio spectrum noise floor to determine whether noise is increasing and, if so, by how much. The TAC had encouraged the FCC to undertake a comprehensive noise study in 1998, and cautioned the FCC against implementing new spectrum management techniques or initiatives without first concluding one. In 2017, the FCC Office of Engineering and Technology (OET) invited comments on a series of (TAC) spectrum-management questions. ARRL, in its comments, took the opportunity to strongly urge the FCC to reinstate the 2016 TAC noise floor study, which, ARRL asserted, was terminated before it even got started. ARRL urged the FCC to "depart from the traditional regulatory model" that placed limits only on transmitters and called for "a 'holistic' approach to transmitter and receiver performance."

Greg Lapin, N9GL, represents ARRL on the TAC and chairs the ARRL RF Safety Committee. "Perhaps the best result that we obtained was an indication that illegal devices, mainly LED lights, were in circulation, and the Enforcement Bureau agreed to look into it," he told ARRL. "We never heard what they found out, but recently, I was buying some LED bulbs over the internet from a site in Texas, and they were selling non-FCC approved lights - and didn't seem to care." Lapin said his complaint went nowhere, and the TAC's focus has been nudged in the direction of addressing 5G issues.

ARRL offers a wide range of information on RFI on its website.

Paul Giancolo, W1VLF, will offer "Finding and Fixing RFI" as part of the ARRL Learning Network webinar series, on Tuesday, April 20, at 1700 UTC.

ARRL Northwestern Division Director Mike Ritz, W7VO, will offer "HF Noise Mitigation" as part of the ARRL Learning Network webinar series, on Thursday, April 22, at 1930 UTC.

Tackle Noise Problems - Continued on page 21

Tackle Noise Problems - Continued from page 20

Some national regulators are paying attention to noise complaints, although not necessarily from users of licensed services. In the UK, regulator Ofcom recently dispatched an engineer just 30 minutes after receiving a report of interference to unprotected license-exempt devices - key fobs in this instance. "On rare occasions, faulty or unauthorized equipment can interfere with nearby technology and prevent it from working properly," Ofcom said. Unclear is whether interference to licensed services would get the same level of attention.

Participants at the 2017 International Amateur Radio Union (IARU) Region 1 Conference in Germany, devoted considerable discussion to noise issues and the need to monitor the noise floor. The **Deutscher Amateur Radio Club (DARC - https://www.darc.de/home)** has been working on developing a noise measurement system that approximates methods used by the International Telecommunication Union-Radiocommunication Sector (ITU-R). DARC reported that 35 of these electrical noise area monitoring systems **(ENAMS - https://vienna.iaru-r1.org/wp-content/uploads/2019/05/VIE19-C7-datasheet-ENAMS-RX_2.pdf)** have been delivered, and it's seeking another 20 locations as part of the effort to monitor noise interference on the HF bands. DARC said the ENAMS can help to make scientifically reliable statements about interference levels.

The IARU Region 1 EMC (electromagnetic compatibility) RF Noise Measurement Group meets quarterly to share ideas and experiences. One project under consideration is development of a common database to gather output from various monitoring stations for further analysis.

IARU sees wireless power transmission (WPT) technology as an impending major noise threat, especially from WPT electric vehicle (WPT-EV) charging systems. "For the amateur service, given the planned density of WPT-EV systems, it is calculated that there will be a widespread and serious impact on its operation in the vicinity of WPT systems" from spurious emissions, said a 2019 ee publishers article **(https://www.ee.co.za/article/amateur-radio-societies-concerned-about-the-hf-noise-floor.html)**, written by "Amateur radio societies concerned about the HF noise floor." The article also said, "To ensure a low probability of harmful interference to radio communication services, further study is required, including evaluation of real equipment, mitigation techniques and other measures to improve WPT-EV systems."

The South African Radio League (SARL) is encouraging radio amateurs to set up their own RF noise monitoring systems using a dongle and a Raspberry Pi. The HF noise monitoring system takes 12 × 1 MHz bandwidth samples every 2 minutes, saving the data to a file.

Article Credit : The ARRL Letter for March 4, 2021 - www.arrl.org

Ham-Firefighter Rescues Drowning Man from River

ARRL member and Edmonson County Emergency Coordinator Tim Skees, K9KSP, a firefighter in Brownsville, Kentucky, was among those responding to an April 23 fire dispatch call he heard on his ham station scanner reporting a possible drowning in the Green River. Radio traffic indicated that the potential victim was a 40-year-old male.

"After assessing the information provided by family members at the scene, [I] went downriver approximately 300 yards, located the victim in water, washed up on a shallow rock shoal in the river," Skees told ARRL. "[I] waded out to the victim, dragged him to the riverbank, and, as other responders showed up and came to where the victim was, he was pulled up the bank of the river. He was suffering exposure/hypothermia from being in the cold water for hours."

Skees said the man's family had at first called in the incident as a confirmed drowning. The man was first taken to the vehicle of Edmonson County Emergency Management Director Terry Massey and warmed up until an ambulance could arrive. Massey told local media that the local dispatcher paged the Brownsville Fire Department around 2 AM after a caller had reported a possible drowning at the Brownsville boat ramp.

Massey said he and Skees arrived at the area and saw two unoccupied vehicles. "In just a minute, we could hear some yelling down at the river and could tell it was downstream a good ways," he told **(https://www.edmonsonvoice.com/-news/man-rescued-from-green-river-at-lock-6-area-early-friday-morning)** The Edmonson Voice. Massey said he and Skees followed the commotion and found the man in about a foot of water, lying on his side, and Skees waded in to retrieve him. Massey said that according to others on the scene, the man had fallen into the water while trying to retrieve some fishing gear.

"I submit this as a testament to the need of hams to get involved with emergency services and foster good working relationships with [emergency managers] and local agencies," Skees said.

Article Credit : The ARRL Letter for May 6, 2021 - www.arrl.org

Perspective : Keys To Success With Emergency Management And The EOC

The question comes up frequently : how to get your radio operators in the door of the emergency management department and the EOC? The answer lies in the big things, like understanding and embracing our true role - we are there to serve and support the professionals in the agency and EOC in the way they see fit, not the other way around. We are there to respond to their orders, even if sometimes we may be assigned non-amateur radio tasks. We are there to do all we can to help them with their profound and often complicated mission of public safety during an incident. We've all heard horror stories about amateur group leaders who didn't like the way the county emergency manager was using operators; they didn't like how the emergency manager ran the department and EOC, so they publicly complained to the county commissioners. That's a nonstarter, of course. Or, when hams spontaneously show up at the door, flood the EOC, and tell the paid, professional trained staff how to do their jobs. This is also a nonstarter.

Success lies in the small things, too, which are really big things. The inspiration for this editorial comes from a local county group that I work with from time to time, on exercises, conferences, nets, and training, that truly understands how the relationship works and why they have garnered the respect and appreciation of the emergency manager and his department. Here are a few things they do :

1. We did whatever they asked. When they asked that we move our entire radio room, we did it within a week of being asked, with no questions asked. The emergency management director specifically pointed that out later on, as a key moment that made him conclude we were a group to involve.
2. We bought and installed our own shelving in the room - a cost of a few hundred dollars, without asking them for money.
3. We held license course after license course until most of our members were Extra class, representing a highly knowledgeable group that were experts in radio communications.
4. We gradually gained Incident Command System (ICS) and Homeland Security Exercise and Evaluation Program (HSEEP) expertise by holding conferences and HSEEP exercises of professional-level quality - with bound, published training materials, full after-action reports, and improvement plans; and we tracked the progress on the improvement plan action items.
5. We recruited the emergency management staff to be the evaluators for our exercises so they could see everything for themselves. We were able to get them to observe and review our exercises and suggest improvements: everything they asked to be changed we changed, improving what we did going forward.
6. We looked into outside systems that would improve our communications options and capability. For example, we were able to get the SHAred RESources (SHARES) HF Radio program into our county for interoperability.
7. We offered to help with ANYTHING they had problems with.
8. We studied the interminable HF received noise problem at our county EOC, purchasing expensive equipment (a spectrum analyzer), and professionally characterized the reception challenges - and then proposed, tested, and implemented successful solutions. Our antennas are now so good, we placed acceptably well in ARRL Field Day!
9. Our license classes netted an influential member of the local law enforcement community who was impressed with our professionalism. That connection opened new doors for us.
10. We tried never to be the tail that wagged the dog. We are a backup, and merely a tiny part of their overall mission to protect the county. We try to stay out of their way.

Key To Success With Emergency Management - Continued on page 24

Key To Success With Emergency Management - Continued from page 23

11. We didn't cost the county a dime, and yet we built a group that grew in professionalism and capabilities - and as a result, the county began to allocate funding for the equipment that would allow our volunteers to be even more successful in the jobs the county wanted done.
12. We brought in our own equipment and made "long term loans" to the county after they indicated that was the cleanest way for us to improve their radio systems. Later, they bought (on their dime) far better equipment - but we still have provided them with EMP-proof gear that you just can't buy off the shelf.
13. We implemented the full Incident Command System for managing our Field Day, and that was noticed.
14. All of our exercises are published in bound form and we gave copies to the emergency management department. The response was, "Your write-ups look better than ours!"
15. We have members joining all kinds of outside groups to gain more and more outside expert knowledge that would benefit our county.

Conclusions

Naturally, we want to promote our own programs. Our programs are excellent sources of fraternity, training, service, and advancement. However, sometimes when it comes to serving the EOC, we have to recognize that an outside group such as ours comes with risk and potential liability. The emergency manager doesn't have the time or the resources to deal with that.

Things you can do: Replace your group's badges, logo hats, and polo shirts with the EOC-provided "Communications Volunteer" or "RADO" shirts, for example. Play up your role in, and knowledge of, the Incident Command System model. You are part of the Communications Unit, under the Logistics Section; you report to the COML, the Communications Unit Leader (COML), or whoever is designated by the emergency manager. (The COM Unit or COMU is not always activated. We have to recognize that the ICS structure is expandable to include those elements that are needed and may have variations in structure; for example, several logistics functions might fall under planning because there is no logistics section chief).

There are many other radio operator/communicators involved at the EOC - professional Sheriff's department dispatchers, and other ESF radio operators, for examples. All operators need to be prepared to report to the COML or designee for tasking and coordination. We cannot bring our own group's organization, rules, and ways of doing things and try to force the staff to deal with them. That would be a subversion of the ICS and leave us outside of the EOC looking in.

Our groups' roles involve training our members to serve within the Incident Command System, no matter what that looks like at any given disaster. We write everything up with ICS-approved forms, send messages with the ICS message form, and otherwise use ICS for everything we do. The Red Cross has followed the ICS model, too : to wit, their ARC-213 message form, patterned after the ICS version.

Getting back to the local county's ARES program and operators here, the emergency manager is convinced that the operators will work well within her emergency management department and EOC under the incident command system, and she is now open to engaging with others who will present themselves as volunteers for the emergency manager, not as a particular group coming to run their show.

Key To Success With Emergency Management - Continued on page 25

Key To Success With Emergency Management - Continued from page 24

The emergency management staff is so comfortable with the county's ARES group that they ended up listing ARES as a component of the Emergency Support Function for Communications - ESF2. That might be what ARRL Field Organization leaders want to see - the promotion of their ARES programs - but it is because of their emergency manager's choice, not due to our request. The EM staff looks at the group here and does not see risk, but rather opportunity for real service and support.

So we end up with what ARRL and ARES would like, but we get there by solving the EOC's problems and meeting their needs: how we can serve them by responding to their orders and tasks for us. We are not trying to sell them on ARES. We are trying to sell them on our individual volunteers who have completed the training requested and will serve confidently, competently, and appropriately. - **Rick Palm, K1CE, with Gordon Gibby, KX4Z**

Article Credit : The ARES Letter for May 19, 2021 - www.arrl.org

April 2021 Volunteer Monitor Program Report Released

The Volunteer Monitor (VM) Program is a joint initiative between ARRL and the FCC to enhance compliance in the Amateur Radio Service.

A General-class renewal applicant withdrew his application after FCC notice that the renewal application would be held up pending review of Volunteer Monitor complaints. As a consequence, the Quakertown, Pennsylvania, applicant has no operating privileges.

Twenty-one operators in 14 states received Advisories because of their operation in the March CQ World Wide DX Contest. While making contacts with VC3T and VC2W, their LSB signals extended below 7.125 MHz, which is the lower limit of the 40-meter amateur phone band.

Volunteer Monitors participated in a nationwide training program on April 7 that was conducted by ARRL and the FCC.

Volunteer Monitors had two meetings in April with FCC Enforcement Bureau personnel.

The totals for VM monitoring in March were 1,394 hours on HF frequencies and 2,515 hours on VHF and above frequencies.

Article Credit : The ARRL Letter for May 13, 2021 - www.arrl.org

QST de W1AW
ARRL Bulletin 15 ARLB015
From ARRL Headquarters
Newington CT May 7, 2021
To all radio amateurs

SB QST ARL ARLB015 First-Time Exam Applicants Must Obtain FCC Registration Number before Taking Exam

Beginning May 20, 2021, all amateur examination applicants will be required to provide an FCC Registration Number (FRN) to the Volunteer Examiners (VEs) before taking an amateur exam. This is necessary due to changes the FCC has made to its licensing system.

Amateur candidates who already have an FCC license, whether for amateur radio or in another service, already have an FRN and can use the same number. All prospective new FCC licensees, however, will be required to obtain an FRN before the examination and provide that number to the volunteer examiners on the Form 605 license application. An FCC instructional video provides step-by-step instructions on how to obtain an FRN through the FCC's COmmission REgistration System (CORES).

The video is available at : **https://www.fcc.gov/rofrn**

The FRN is required for all new applicants to take an amateur exam and is used afterward by the applicant to download the license document from the FCC Universal Licensing System (ULS), upgrade the license, apply for a vanity call sign, and to submit administrative updates (such as address and email changes) and renewal applications.

In addition, after June 29, all applications will be required to contain an email address for FCC correspondence. Applicants will receive an email direct from the FCC with a link to the official electronic copy of their license whenever a license is issued or changed. ARRL VEC suggests that those without access to email to use the email address of a family member or friend. Licensees will be able to log in to the ULS using their FRN and password to download the latest version of their license at any time. The FCC no longer provides paper license documents.

Further information about providing an email address can be found at :
http://www.arrl.org/news/fcc-to-require-email-address-on-applications-starting-on-june-29-2021

Happy Birthday

June 23, 1939

QST de W1AW
ARRL Bulletin 16 ARLB016
From ARRL Headquarters
Newington CT May 20, 2021
To all radio amateurs

SB QST ARL ARLB016 Amateurs' Email Addresses Will Continue to Be Kept Private, FCC Says

Starting on June 29, all applications filed with the FCC must include an email address for FCC correspondence. After receipt of the initial announcement that all future applications would require an email address, ARRL was concerned for the privacy of its members and requested that amateurs' email addresses not be made public. This week, the FCC agreed, stating in an email to ARRL counsel that it will continue to "mask" amateurs' email addresses from public view in the Universal Licensing System (ULS). The FCC will use the email address supplied by amateurs to correspond with applicants, including to send a link to the official electronic copy of the license when an application is granted.

The FCC is transitioning to fully electronic correspondence and no longer mails hard-copy licenses. Amateurs are able to view, download, and print their official license grant, using the ULS. When a license is first granted, each applicant will receive an email with a direct link to the license. Although the link expires in 30 days, the license itself will remain available in the ULS and may be downloaded at any time by signing into the licensee's account using their FCC Registration Number (FRN) and password.

On or after June 29, a valid email address must be provided with each application, and must be kept current by filing a modification application as necessary. Under the amended Section 97.23, "The email address must be an address where the grantee can receive electronic correspondence. Revocation of the station license or suspension of the operator license may result when correspondence from the FCC is returned as undeliverable because the grantee failed to provide the correct email address."

Applicants lacking an email address should consider using the email address of a friend or family member on their FCC applications.

Reminder: Due to changes the FCC has made to its licensing system, starting today, Thursday, May 20, all amateur exam applicants must provide their FRN to the Volunteer Examiners (VEs) before taking an amateur exam. Prospective new FCC licensees will be required to obtain an FRN before the examination and provide that number to the VEs on the Form 605 license application. An FCC instructional video provides step-by-step instructions on how to obtain an FRN through the FCC's COmmission REgistration System (CORES) can be found at : **https://www.fcc.gov/rofrn**.

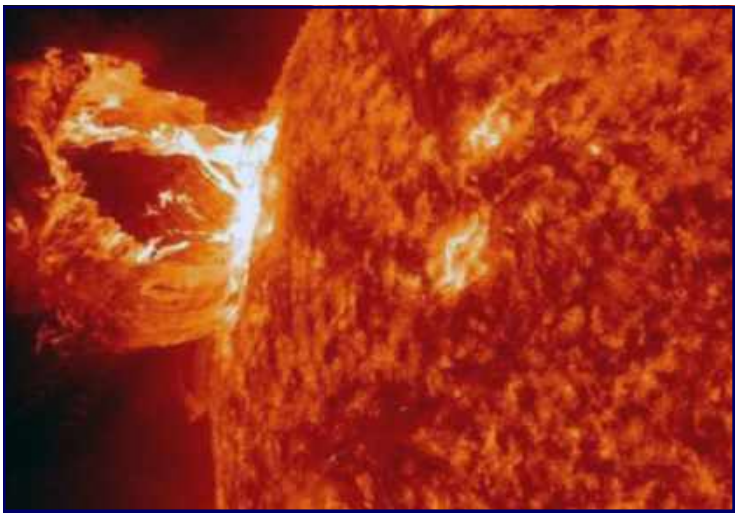
The FRN is used afterward by the applicant to download the official license document from the FCC's Universal Licensing System (ULS), to upgrade a license, apply for a vanity call sign, and to submit administrative updates (such as address and email changes) and renewal applications.

OPERATING TIP
Just the Exchange, Please. It pays to mention it every contest season : During a contest or at any other time when contact rate is important, only provide the exchange - nothing more. If a running station has responded to your call, they only need your report. Don't repeat their call. If they didn't get your call right, provide your call again then the report. If your call was correct, just provide the exchange.

Tech Saturday Fox Hunt XX

It Couldn't Happen Again, Could It?

By Jim Wright, N2GXJ



100 years ago, the entire signal and switching system of the New York Central Railroad below 125th Street was put out of operation, followed by a fire in the control tower at Fifty-Seventh Street and Park Avenue. What was to blame for this? A New York Times article from the time blamed a sunspot for this mischief. For sure, the sun must have uncorked a good one, and the Earth was in its path. Theater goers exiting their shows that evening were surprised to be treated to an overhead light show as the Northern Lights, the Aurora Borealis, danced overhead, brighter than the lights of New York City.

You can read all about it in old newspaper reports from the period, an example being :
http://www.solarstorms.org/NewsPapers/d1921a.pdf

Could what happened those 3 days back in 1921 happen again? And what if it did?

Some say we've been lucky. Our modern technology today might not take too well to a large Earth directed solar coronal mass ejection (CME). There has been speculation over the years as to what might happen, if a big Earth-facing CME were to happen again, and example being :
https://spaceweatherarchive.com/2020/05/12/the-great-geomagnetic-storm-of-may-1921

A most disturbing potential consequence of such an event in 2021 could be the loss of GPS satellites. What I did not realize is, that despite its name that includes the word "position" in it, today's reliance on GPS that would be most disrupted would not be related to location. It would be related to time.

This critical time is used for precise synchronization of communication systems, including wireless telephone and data networks, by financial networks (including those used by your favorite ATM machine), credit card transactions, and other critical infrastructure. You can read more about this at :
https://www.gps.gov/applications/timing

The point being that even a "minor" short term disruption to the GPS satellite system from an Earth-directed CME could have a wide reaching and lingering effect on our commerce and our lives. The potential impact is not a hypothetical exercise.

Dan Glass from The Atlantic magazine described in 2016 some of the problems that have already been seen with GPS time errors, from accidental events (human error), to deliberately introduced errors (jamming, and spoofing). You can read about this at :
https://www.theatlantic.com/technology/archive/2016/06/what-happens-if-gps-fails/486824

Included in the article is a mention of a large CME that exploded from the sun in July 2012, estimated to be as strong as the CME that is suspected as causing the 1859 Carrington Event. Why did we not hear of it? It was not Earth-directed. It blew off in a different direction, and thus missed Earth.

Could it happen again? Sure. But there's not that much we can do about it. When it comes to large Earth-directed CME, fingers crossed for continued good luck!

CQWW WPX Contest, SSB
March 27, 2021

Call : K3TS
Operator (s) : K3TS
Station : K3TS

Class : SOAB HP
Class Overlay : TB-Wires
QTH : SNJ
Operating Time (hrs) : 6-?
Location : USA

Summary :

Band	QSOs
80 :	8
40 :	70
20 :	104
15 :	30

Total : 212 Prefixes : 196
Total Score : 131,124

Club : Frankford Radio Club **45**

Comments : *A limited casual effort on a very busy weekend, I did what I could. 73*

de K3TS

Russian DX Contest
March 20, 2021

Call : AB2E
Operator (s) : AB2E
Station : AB2E

Class : SO CW HP
QTH : NJ
Operating Time (hrs) : 2
Location : USA

Summary :

Band	CW Qs	Ph Qs	Countries	Oblasts
80 :	10	0	10	1
40 :	25	0	11	5
20 :	13	0	7	0
Total :	48	0	28	6

Total Score : 7,854

Club : Frankford Radio Club **46**

Comments :
Rig : FTDX-9000D/Acom 2000A
Antennas :
80m dipole @ 95ft
40m dipole @ 85ft
20m delta loop @ 65ft

Condx very bad! Limited time to operate! CU Next time!
73 Darrell AB2E

SP DX Contest
April 3, 2021

Call : AB2E
Operator (s) : AB2E
Station : AB2E

Class : SOABCW HP
QTH : SNJ
Operating Time (hrs) : 1
Location : USA

Summary :

Band	CW Qs	Ph Qs	Mults
80 :	5	0	5
40 :	13	0	9
Total :	18	0	14

Total Score : 756

Club : Frankford Radio Club **47**

Comments :
Rig : FTDX-9000D/Acom 2000A
Antennas :
80m dipole @ 90ft
40m dipole @ 85ft

Poor condx at the time I was operating with very limited time (1 hour). All S&P. Always fun to work my SP friends.

73 Darrell AB2E

Yuri Gagarin International DX Contest
April 10, 2021

Call : AB2E
Operator (s) : AB2E
Station : AB2E

Class : SOAB HP
QTH : NJ
Operating Time (hrs) : 1
Location : USA

Summary :

Band	QSOs	Mults
80 :	13	5
40 :	49	10
Total :	62	15

Total Score : 7,065

Club : Frankford Radio Club **49**

Comments :
Rig : FTDX-9000D/Acom 2000A
Antennas :
80m dipole @ 90ft
40m dipole @ 85ft

Wish I had more time to operate this contest. Almost same format as IARU contest in July. Nice to celebrate the first man in space - Mr. Gagarin.

73 Cheers
Darrell AB2E

CQ MM DX Contest
April 17, 2021

Call : AB2E
Operator (s) : AB2E
Station : AB2E

Class : SOAB HP
QTH : SNJ
Operating Time (hrs) : 2
Location : USA

Summary :

Band	QSOs	Prefixes
80 :	44	0
40 :	60	12
20 :	12	6
Total :	116	6

Countries : 33
Total Score : 27,489

Club : Frankford Radio Club **50**

Comments :
Rig : FTDX-9000D/Acom 2000A
Antennas :
80m dipole @ 90ft
40m dipole @ 80ft
20m delta loop @ 65ft

Lousy condx.
Great to see old friends!
73 Darrell AB2E

Florida QSO Party
April 24, 2021

Call : K3TS
Operator (s) : K3TS
Station : K3TS

Class : SOAB(A)CW LP
QTH : SNJ
Operating Time (hrs) : 5
Location : Out of State/Province

Summary :

Band	CW Qs	Ph Qs
40 :	34	0
20 :	90	0
15 :	5	0
Total :	129	0

CW Mults : 41 **Ph Mults : 0**
Total Score : 10,578

Club : Frankford Radio Club **51**

Comments : *Limited time available to operate this one, but fun when I was able to. I wish they wouldn't stop the clock at 10 PM EDT, when I was just getting warmed up. Nice to see all the mobiles back in action. They really are the heart of this event. 73 all!*

de K3TS

Shed Clean Out - May 22, 2021

2019-2023 Element 3 General Class License Question Quiz

This month we continue with **Subelement G6 : Circuit Components** (Answers on 'Last Page Calendar')

G6A05
What is the approximate junction threshold voltage of a conventional silicon diode?
A. 0.1 volt
B. 0.3 volts
C. 0.7 volts
D. 1.0 volts

G6A06
Which of the following is a reason not to use wire-wound resistors in an RF circuit?
A. The resistor's tolerance value would not be adequate for such a circuit
B. The resistor's inductance could make circuit performance unpredictable
C. The resistor could overheat
D. The resistor's internal capacitance would detune the circuit

G6A07
What are the stable operating points for a bipolar transistor used as a switch in a logic circuit?
A. Its saturation and cutoff regions
B. Its active region (between the cutoff and saturation regions)
C. Its peak and valley current points
D. Its enhancement and depletion modes

G6A08
What is an advantage of using a ferrite core toroidal inductor?
A. Large values of inductance may be obtained
B. The magnetic properties of the core may be optimized for a specific range of frequencies
C. Most of the magnetic field is contained in the core
D. All these choices are correct

G6A09
Which of the following describes the construction of a MOSFET?
A. The gate is formed by a back-biased junction
B. The gate is separated from the channel with a thin insulating layer
C. The source is separated from the drain by a thin insulating layer
D. The source is formed by depositing metal on silicon

G6A10
Which element of a triode vacuum tube is used to regulate the flow of electrons between cathode and plate?
A. Control grid
B. Heater
C. Screen grid
D. Trigger electrode

General Class Quiz - Continued on page 34

General Class Quiz - Continued from page 33

G6A11
What happens when an inductor is operated above its self-resonant frequency?
A. Its reactance increases
B. Harmonics are generated
C. It becomes capacitive
D. Catastrophic failure is likely

G6A12
What is the primary purpose of a screen grid in a vacuum tube?
A. To reduce grid-to-plate capacitance
B. To increase efficiency
C. To increase the control grid resistance
D. To decrease plate resistance

G6A13
Why is the polarity of applied voltages important for polarized capacitors?
A. Incorrect polarity can cause the capacitor to short-circuit
B. Reverse voltages can destroy the dielectric layer of an electrolytic capacitor
C. The capacitor could overheat and explode
D. All these choices are correct

G6A14
Which of the following is an advantage of ceramic capacitors as compared to other types of capacitors?
A. Tight tolerance
B. High stability
C. High capacitance for given volume
D. Comparatively low cost

G6B01
What determines the performance of a ferrite core at different frequencies?
A. Its conductivity
B. Its thickness
C. The composition, or "mix," of materials used
D. The ratio of outer diameter to inner diameter

G6B02
What is meant by the term MMIC?
A. Multi-Megabyte Integrated Circuit
B. Monolithic Microwave Integrated Circuit
C. Military Manufactured Integrated Circuit
D. Mode Modulated Integrated Circuit

ARRL Ham Radio License Exam Practice Website
www.arrlexamreview.appspot.com

Gloucester County Amateur Radio Club
General Membership ZOOM Meeting Minutes
Wednesday, May 5, 2021

Meeting opened @ 1931 Hours via ZOOM by President Tony Starr, K3TS.

Attendance :

- Members : 34
- Visitors : 0

Minutes from the April General Membership Meeting were published previously in the CrossTalk and approved without changes.

Treasurer's Report : Al KB2AYU reported YTD (budgeted) income of $3646, mostly from dues. Approximately 25 persons have not renewed. Expenses were $1868, for a net gain of $1778.

Committees :

Clubhouse : Al KB2AYU stopped by the Clubhouse on Saturday and found that the rotator for the HF beams had snapped, making the beams not usable. It is possible that all of the coaxial cables are damaged too. The 80 meter dipole is OK. **Jon WB2MNF** said he used a drone to examine the feedlines to the HF tower. The feed lines for 40, 30 and 18 meters seem to be OK, but 20, 15 and 10 had high SWR, so it is possible that only one cable has been damaged.

Parts for the old rotator may not be available since it is an unusual model from C.A.T.S. (the Rotor Doc) and Al may have a replacement rotator to loan the Club until a new one is purchased. Replacing the rotator will require a lift or bucket truck. These are expensive to rent, so Al will contact Harold who works with 4H to discuss repair of the bucket truck that belongs to 4H. It would save money if we could borrow this equipment on occasion even if we shared the cost of repair. Al will pick up a new air conditioner soon for the Clubhouse, but the hole in the wall may need to be enlarged.

Field Day : Vinnie N4NYY will be looking for volunteers for the bonus point activities, e.g. the Public Information Table, GOTA Station, Police, OEM or EMT visit, etc. **Herb KT2Y** will make 2 Meter solar contacts, the Skunkworks Team will contact satellites, Vinnie will arrange for an elected official to visit, Herb will serve as Safety Officer and Jim N2GXJ will handle Web Submission of scores.

Last year there was hash noise on 80 meters, which was tracked down to a fan controller for the Networking Cabinet. **Jon WB2MNF** said this could be turned off during the event and Frank N3PUU plans to do a RF noise level survey prior to Field Day.

There was some discussion of generator noise and it was decided that we are OK because Club members can provide enough quiet generators to avoid use of the large noisy one. There will be a meeting of band captains at the Clubhouse sometime after the June General Membership Meeting.

May 2021 General Membership Meeting Minutes - Continued on page 36

May 2021 General Membership Meeting Minutes - Continued from page 35

Technical Committee : Jon WB2MNF shared his screen to show progress of the Lightning Protection (formerly Grounding) Project. The breaker panel, electrical and RF outlets and rotator protectors have been bonded to the newly-installed copper strips that are mounted to the walls of the HF room and the Ethernet cable has been replaced with Fiber-Optic. **Chris KC2IEB** lent a demolition hammer that was used to drive several grounding rods outside of the Clubhouse. In brief, the HF room is finished. **Frank N3PUU** said he would send a note of thanks to those involved with this work.

We will have an Open House Tech Saturday this weekend, beginning at 9 AM. Instructional activities will begin at 10 AM, including Fox Hunting by **Jim N2GXJ** and HF Remote Station Operation by **John W2HUV**. A simple HT will suffice for Foxhunt training although experienced Foxhunters may bring their directional equipment for show and tell. The Foxhunt Tutorial will not replace the Spring Foxhunt, which will take place on the following Saturday with **Frank N3PUU** as the Fox. The Open House may continue into the afternoon, depending upon the weather.

The lawn has been mowed by **Bob KD2GFL** and the website **http://skunkworks.w2mmd.org** has been upgraded. Suggestions for future Tech Saturday topics and your projects that you would like to have discussed can be sent to **WB2MNF@arrl.net**. In order to get more done at the Clubhouse, Work Saturdays will be scheduled 2 weeks after each Tech Saturday.

Tony K3TS thanked the Lightning Protection Team and noted that **John W2HUV** has placed an order for the linear amplifier.

Hamfest : Sheldon K2MEN received approval/sanctioning of the hamfest from ARRL.

DX : Tony K3TS had no report, but noted that 6 meter E-skip is starting.

Contests : Tony K3TS noted these will be mostly European DX Contests this month and that the CQ WPX CW Contest will take place on the 29th and 30th.

OLD BUSINESS : None

NEW BUSINESS :

Ron NR2B submitted an amendment to the By-Laws that calls for better tracking of progress and expenses of approved Club projects. In particular, each project should have a Name, Work Effort Description, Designated Leader and End Date. The Designated Leader should make a brief report on the progress of each project at each general membership meeting. **Treasurer Al KB2AYU** commented that tracking had been haphazard in the past and the amendment would not be an "onerous" burden. Following some discussion, the amendment was adopted by unanimous vote.

Tony K3TS is shooting for an in-person June Meeting at the **Pfeiffer Community Center**. This will be a Pizza Night. There was some discussion as to whether the indoor limit is 50 or 75 people. This needs to be clarified.

May 2021 General Membership Meeting Minutes - Continued on page 37

May 2021 General Membership Meeting Minutes - Continued from page 36

Bob KD2NEC reminded everyone of the Digital Training Net that runs every Monday night at 7 PM with **Gary WA3SVW** as instructor. The focus has been on FLDIGI, but next week they will move on to FT8 and, after that, to WinLink.

Bob KD2NEC mentioned that he and **Karl W2KBF** are attempting to establish a relationship between ARES and OEM, possibly thru CERT, and we are looking for hams that may have had CERT training in the past.

Frank N3PUU had a chance to talk with **Jennifer Coles** and her husband **John** from the 4H. They seemed like nice people who will be easy to work with and **Frank N3PUU** clarified the boundaries that the Club uses during Field Day. Also, the 4H is having some trouble getting Internet Access up in the fairgrounds area so it is possible that the Club can help them out with Internet issues and electrical advice.

Mike K2MRP thinks the Club may need to get a dumpster for the shed cleanout. This could be expensive. Herb KT2Y pointed out that the 4H has a dumpster and another possibility is to load up a pickup truck and take the load to the county solid waste facility. **Tony K3TS** will bring this up with the BoD.

Meeting adjourned @ 2049 Hours.

Respectfully submitted,
Karl Frank, W2KBF
Recording Secretary

Sunday
June 20, 2021

Gloucester County Amateur Radio Club
Board of Directors ZOOM Meeting Minutes
Wednesday, May 19, 2021

Meeting opened @ 1901 Hours via ZOOM by President Tony Starr, K3TS.

Attendance :

- President Tony Starr, K3TS
- Treasurer Al Arrison, KB2AYU
- Recording Secretary Karl Frank, W2KBF
- Director Chuck Colabrese, WA2TML
- Director Jeff Garth, WB2ZBN
- Director Herb Dyer, KT2Y
- Director Jim Clark, KA2OSV
- Director Bill Price, NJ2S
- Director Bob Durham, W2RAD
- Member Frank Romero, N3PUU
- Member John O'Connell, K2QA
- Member Mike Pecorini, K2MRP
- Member Jon Pearce, WB2MNF
- Member Steve Farney, W2SEF
- Member Anthony Cerami, KD2RPI

Recording Secretary Karl W2KBF summarized the minutes from the April 21st BoD meeting and these were approved by vote of the attendees.

New Members : Jeff WB2ZBN received three membership applications :

- Arthur Olson Jr., N2AJO from Brick, NJ
- Gary Kinney, KC2ULS from Medford, NJ
- James McDonald Jr., WB2AOL from Columbus, OH

All three were accepted by vote.

Treasurer Report : Al KB2AYU reported YTD income of $3820, mostly from dues, and expenses of $1868 for a net gain of $1952. The report was accepted.

Committee Reports :

Clubhouse : Al KB2AYU said the Tech Saturday/Open House was very successful. A new air conditioner has been installed which fit the existing hole in the Clubhouse. Club member Ernest Kraus KD2EAV met with Al KB2AYU at Lowes in order to use his Military Discount and obtained the unit plus extended warranty for approximately $700. Al KB2AYU attempted to check out the 4H's bucket truck but found it would not start due to a dead battery. The next step will be to swap in a starter battery. A bucket truck or man lift will be needed to replace the rotator in the large tower. Bill NJ2S may be able to get one of his friends who is an electrical contractor to come over on a Sunday with his bucket truck.

May 2021 Board of Directors Meeting Minutes - Continued on page 39

May 2021 Board of Directors Meeting Minutes - Continued from page 38

Saturday, May 22, 2021 is Shed Cleanout Day. All members are invited to help out.

Field Day : Vinnie N4NYY was not present so Tony K3TS commented that plans are moving along well. Tony is almost finished constructing his 2 element 20 meter beam.

Tony clarified that the Club's generator is not intended for Field Day use. Instead we will use several small, quiet generators that belong to Club members.

A Field Day planning meeting will be scheduled sometime after the June General Membership meeting.

The BoD would like to have food available at Field Day although we don't want food preparation to take away manpower from on-air operating time. It was decided to announce the need for food volunteers at the next General Membership Meeting.

Technical Committee : Jon WB2MNF reviewed the recent Tech Saturday/Open House event, i.e. Fox Hunt Clinic by Jim Wright, N2GXJ, demonstration of HF station by John Hill, W2HUV and observation of satellite passes with Jon WB2MNF et al.

A rope has been attached to the boom of the HF antenna to prevent further uncontrolled rotation.

Due to the Lightning Protection Project, Tech Saturdays in June and July will not have programs but will still take place for Q & A and socialization.

Frank N3PUU said the Lightning Protection Project work in the HF room has gone as far as it can for now but more will need to be done after the linear amplifier arrives.

Other Projects : Karl W2KBF is working to establish a Winlink RMS (Radio Message Server) at his QTH. In a few weeks Gary Mirkin, WA3SVW plans to provide Winlink training during the Monday Night Digital Training Net and Karl W2KBF hopes to make the RMS accessible over the W2MMD 2 meter repeater in time for Gary's training.

Jon WB2MNF is working on getting solar power for the Skunkworks Project Cabinet.

The Club's new air conditioner can be controlled by WiFi so Jon WB2MNF is looking into controlling the air conditioner by remote over the internet.

Frank N3PUU has been working on a 3D-printed rotator for the SATNOGS station.

Hamfest : No report.

DX and Contests : Tony K3TS pointed out the upcoming WPX CW Contest on Memorial Day Weekend.

May 2021 Board of Directors Meeting Minutes - Continued on page 40

May 2021 Board of Directors Meeting Minutes - Continued from page 39

OLD BUSINESS :

Club Generator : Club member Anthony Cerami KD2RPI has been in touch with a person in Mullica Hill who collects old engines and will sell us a radiator for $150 that will fit our generator. There is no tag on the engine, but this generator appears to be a 4 cylinder Kohler model from 1956. The BoD voted to purchase this radiator just to get the generator running and will ask the General Membership to approve funding for any other necessary replacement parts.

Anthony KD2RPI volunteered to remove and rebuild the carburetor and fuel pump. It may be possible to add a propane conversion kit. Both Tony K3TS and Frank N3PUU thought this would be a good idea. Frank N3PUU noted that, due to low rate of gas vaporization in cool weather, it may be necessary to have a propane tank of at least 200 pounds to run this generator.

NEW BUSINESS :

The June 2, 2021 General Meeting will be "Pizza Night" at the Pfeiffer Community Center in Williamstown. The indoor attendance limit has been removed but masks still will be needed. In the past, we usually ordered 8 to 10 pizzas, but since we are not certain of attendance this year, Tony K3TS will send out an email asking who plans to attend.

The Toilet Project : Jeff WB2ZBN, noting the Clubhouse toilet is too low and has cosmetic issues, volunteered to lead the Toilet Replacement Project. The BoD asked Jeff WB2ZBN to research the cost of brand name toilets, for which replacement parts are likely to remain available for some time.

Other Clubhouse Issues : Jeff WB2ZBN noted the 8-channel DVR at the Clubhouse has been beeping, which suggests the hard drive may have failed. John K2QA said he will investigate it.

Also, the outdoor floodlight near the VHF room flashes off and on at night, so it may need to be replaced.

Meeting adjourned @ 2011 Hours.

Respectfully submitted,
Karl Frank, W2KBF
Recording Secretary

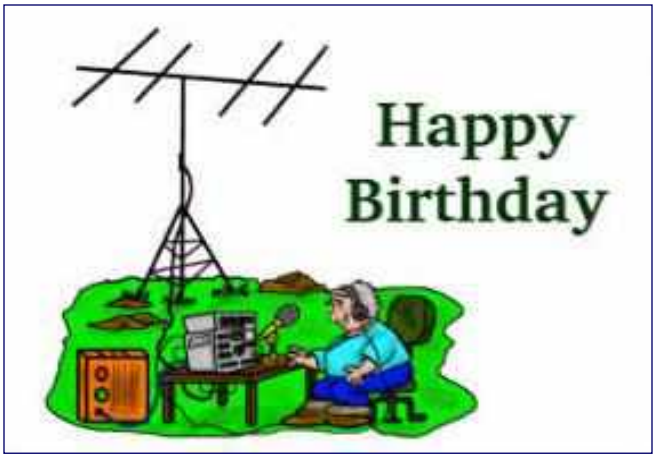
Gloucester County Amateur Radio Club
2020 Field Day Scores Breakdown

Callsign	QSOs	Class	Power	Participants	Total
GCARC W2MMD	2,564	8A	2	28	9,984
Darrell Neron AB2E	870	1D	1	1	1,790
Dennis Sandole K2SE	402	1D	2	1	1,658
Howard Marder WA2IBZ	130	1D	2	1	570
Bart Kleczynski AC2PT	97	1D	2	1	344
Totals	4,063			32	14,346

June Birthdays

Congratulations to our members who are celebrating their birthday this month

Gerald Brown Jr, K2SLB
Albert Christopher, KD2PDW
Kenny Denson, WB2P
Larry Dial Jr, KI2LDD
Glenn Dougherty, N2YIO
Russell Guise Sr, KD2WDM
Peter Harow, W2QB
Jodi Ann Logan, KD2UUB
Bob Madara, WA2CB
Michael Mapes, N3TTB
Larry Mapow, KX2M
David Paster, AC2IQ
Gregg Valentine Sr, KD2VBH



In Memoriam
June Birthdays

Silent Keys :
Joseph Anlage, W2PH
Joseph Arsenault, WA2KDV
Joshua Brehm Sr, AE2L
Raymond Buirch, KB2BIG
John Cliver III, N2NLE
Edwin Datz, N2PJV
Harry Gindhart, KE3SN
Helmut Leibfarth, WA2LTY
Robert Marshall, N2BDH
Philip Mattison, WA2WOD
Kenneth Newman, N2CQ (President 1970)
Ralph Ralls Sr, WA2CVW (Charter Member)
Arthur Roberts, W2UNI
Raymond Schnapp, WB2NBJ (President 2001-2004)
Charles Sketchley, K2PQD (Charter Member)
Francis Snyder, WB2TKN

Crosstalk Submissions

This is your Club Newsletter. Make use of it.

If you have stories or photos of your hobby that you would like to share with the Club, please do so!

We will keep covering all of the GCARC events, but it is also nice to get those personal perspectives to include in every issue. Connecting through experiences is what makes the Gloucester County Amateur Radio Club a *REAL* Club.

All submissions, queries, comments and editorials should be addressed to Jeffrey Garth, WB2ZBN at jeff <*dot*> garth <*at*> comcast <*dot*> net.

Submission deadline for the July 2021 issue : Sunday, June 20, 2021

Club Website www.w2mmd.org
Club E-Mail Reflector: GCARC <*at*> Mailman <*dot*> QTH <*dot*> Net

June 2021 Contest Calendar

WA7BNM Contest Calendar : www.contestcalendar.com

June 2021	
Worldwide Sideband Activity Contest	0100Z-0159Z, Jun 1
QCX Challenge	0300Z-0400Z, Jun 1
RTTYOPS Weeksprint	1700Z-1900Z, Jun 1
Phone Weekly Test - Fray	0230Z-0300Z, Jun 2
CWops Mini-CWT Test	1300Z-1400Z, Jun 2
VHF-UHF FT8 Activity Contest	1700Z-2000Z, Jun 2
CWops Mini-CWT Test	1900Z-2000Z, Jun 2
Walk for the Bacon QRP Contest	0000Z-0100Z, Jun 3 and 0200Z-0300Z, Jun 4
CWops Mini-CWT Test	0300Z-0400Z, Jun 3
RTTYOPS Weeksprint	1700Z-1900Z, Jun 3
NRAU 10m Activity Contest	1700Z-1800Z, Jun 3 (CW) and 1800Z-1900Z, Jun 3 (SSB) and 1900Z-2000Z, Jun 3 (FM) and 2000Z-2100Z, Jun 3 (Dig)
EACW Meeting	1900Z-2000Z, Jun 3
SKCC Sprint Europe	1900Z-2100Z, Jun 3
PODXS 070 Club Three Day Weekend Contest	0000Z, Jun 4 to 2359Z, Jun 6
NCCC RTTY Sprint	0145Z-0215Z, Jun 4
NCCC Sprint	0230Z-0300Z, Jun 4
HA3NS Sprint Memorial Contest	1900Z-1929Z, Jun 4 (40m) and 1930Z-1959Z, Jun 4 (80m)
K1USN Slow Speed Test	2000Z-2100Z, Jun 4
10-10 Int. Open Season PSK Contest	0000Z, Jun 5 to 2400Z, Jun 6
PVRC Reunion	0000Z-0200Z, Jun 5 and 0000Z-0200Z, Jun 6
DigiFest	0400Z-1200Z, Jun 5 and 2000Z, Jun 5 to 0400Z, Jun 6 and 1200Z-2000Z, Jun 6
KANHAM Contest	0600Z, Jun 5 to 0600Z, Jun 6
Wake-Up! QRP Sprint	0600Z-0629Z, Jun 5 and 0630Z-0659Z, Jun 5 and 0700Z-0729Z, Jun 5 and 0730Z-0800Z, Jun 5
Tisza Cup CW Contest	1200Z, Jun 5 to 1159Z, Jun 6
UKSMG Summer Contest	1300Z, Jun 5 to 1300Z, Jun 6
Kentucky QSO Party	1400Z, June 5 to 0200Z, Jun 6
RSGB National Field Day	1500Z, Jun 5 to 1500Z, Jun 6
FULL-LRB HF Contest	1800Z, Jun 5 to 1200Z, Jun 6
Cookie Crumble QRP Contest	1700Z-2200Z, Jun 6
K1USN Slow Speed Test	0000Z-0100Z, Jun 7
RSGB 80m Club Championship, Data	1900Z-2030Z, Jun 7
Worldwide Sideband Activity Contest	0100Z-0159Z, Jun 8
ARS Spartan Sprint	0100Z-0300Z, Jun 8
RTTYOPS Weeksprint	1700Z-1900Z, Jun 8
NAQCC CW Sprint	0030Z-0230Z, Jun 9
Phone Weekly Test - Fray	0230Z-0300Z, Jun 9
CWops Mini-CWT Test	1300Z-1400Z, Jun 9
VHF-UHF FT8 Activity Contest	1700Z-2000Z, Jun 9
CWops Mini-CWT Test	1900Z-2000Z, Jun 9
CWops Mini-CWT Test	0300Z-0400Z, Jun 10
RTTYOPS Weeksprint	1700Z-1900Z, Jun 10
EACW Meeting	1900Z-2000Z, Jun 10
NCCC RTTY Sprint	0145Z-0215Z, Jun 11
NCCC Sprint	0230Z-0300Z, Jun 11
K1USN Slow Speed Test	2000Z-2100Z, Jun 11
VK Shires Contest	0000Z-2359Z, Jun 12
DRCG WW RTTY Contest	0000Z-0759Z, Jun 12 and 1600Z-2359Z, Jun 12 and 0800Z-1559Z, Jun 13
SMIRK Contest	0000Z, Jun 12 to 2400Z, Jun 13
Asia-Pacific Sprint, SSB	1100Z-1300Z, Jun 12

June 2021 Contest Calendar - Continued on page 43

June 2021 Contest Calendar

WA7BNM Contest Calendar : www.contestcalendar.com

June 2021 Contest Calendar - Continued from page 42

Portugal Day Contest	1200Z, Jun 12 to 1200Z, Jun 13
SKCC Weekend Sprintathon	1200Z, Jun 12 to 2400Z, Jun 13
AGCW VHF/UHF Contest	1400Z-1700Z, Jun 12 (144) and 1700Z-1800Z, Jun 12 (432)
GACW WWSA CW DX Contest	1500Z, Jun 12 to 1500Z, Jun 13
REF DDFM 6m Contest	1600Z, Jun 12 to 1600Z, Jun 13
ARRL June VHF Contest	1800Z, Jun 12 to 0259Z, Jun 14
K1USN Slow Speed Test	0000Z-0100Z, Jun 14
4 States QRP Group Second Sunday Sprint	0000Z-0200Z, Jun 14
Worldwide Sideband Activity Contest	0100Z-0159Z, Jun 15
RTTYOPS Weeksprint	1700Z-1900Z, Jun 15
NAQCC CW Sprint	0030Z-0230Z, Jun 16
Phone Weekly Test - Fray	0230Z-0300Z, Jun 16
SARL Youth Sprint	1200Z-1400Z, Jun 16
CWops Mini-CWT Test	1300Z-1400Z, Jun 16
CWops Mini-CWT Test	1900Z-2000Z, Jun 16
RSGB 80m Club Championship, CW	1900Z-2030Z, Jun 16
CWops Mini-CWT Test	0300Z-0400Z, Jun 17
RTTYOPS Weeksprint	1700Z-1900Z, Jun 17
EACW Meeting	1900Z-2000Z, Jun 17
NCCC RTTY Sprint	0145Z-0215Z, Jun 18
NCCC Sprint	0230Z-0300Z, Jun 18
K1USN Slow Speed Test	2000Z-2100Z, Jun 18
All Asian DX Contest, CW	0000Z, Jun 19 to 2400Z, Jun 20
Battle of Carabobo International Contest	0000Z-2400Z, Jun 19
Ukrainian DX Classic RTTY Contest	1200Z, Jun 19 to 1159Z, Jun 20
IARU Region 1 50/70 MHz Contest	1400Z, Jun 19 to 1400Z, Jun 20
Stew Perry Topband Challenge	1500Z, Jun 19 to 1500Z, Jun 20
West Virginia QSO Party	1600Z, Jun 19 to 0400Z, Jun 20
ARRL Kids Day	1800Z-2359Z, Jun 19
Feld Hell Sprint	1800Z-1959Z, Jun 19
WAB 50 MHz Phone	0800Z-1400Z, Jun 20
Run for the Bacon QRP Contest	2300Z, Jun 20 to 0100Z, Jun 21
K1USN Slow Speed Test	0000Z-0100Z, Jun 21
Worldwide Sideband Activity Contest	0100Z-0159Z, Jun 22
RTTYOPS Weeksprint	1700Z-1900Z, Jun 22
SKCC Sprint	0000Z-0200Z, Jun 23
Phone Weekly Test - Fray	0230Z-0300Z, Jun 23
CWops Mini-CWT Test	1300Z-1400Z, Jun 23
CWops Mini-CWT Test	1900Z-2000Z, Jun 23
CWops Mini-CWT Test	0300Z-0400Z, Jun 24
RTTYOPS Weeksprint	1700Z-1900Z, Jun 24
EACW Meeting	1900Z-2000Z, Jun 24
RSGB 80m Club Championship, SSB	1900Z-2030Z, Jun 24
NCCC RTTY Sprint	0145Z-0215Z, Jun 25
NCCC Sprint	0230Z-0300Z, Jun 25
K1USN Slow Speed Test	2000Z-2100Z, Jun 25
UFT QRP Contest	0600Z-0900Z, Jun 26 and 1400Z-1700Z, Jun 26
His Maj. King of Spain Contest, SSB	1200Z, Jun 26 to 1200Z, Jun 27
Ukrainian DX DIGI Contest	1200Z, Jun 26 to 1200Z, Jun 27
ARRL Field Day	1800Z, Jun 26 to 2100Z, Jun 27
K1USN Slow Speed Test	0000Z-0100Z, Jun 28
QCX Challenge	1300Z-1400Z, Jun 28
RSGB FT4 Contest Series	1900Z-2030Z, Jun 28
QCX Challenge	1900Z-2000Z, Jun 28
Worldwide Sideband Activity Contest	0100Z-0159Z, Jun 29
QCX Challenge	0300Z-0400Z, Jun 29
RTTYOPS Weeksprint	1700Z-1900Z, Jun 29
Phone Weekly Test - Fray	0230Z-0300Z, Jun 30
CWops Mini-CWT Test	1300Z-1400Z, Jun 30
CWops Mini-CWT Test	1900Z-2000Z, Jun 30

2021 Club Committees

Standing Committees	Committee Chairs
Budget	**Al Arrison, KB2AYU**
Constitution & By-Laws	**Ron Block, NR2B**
Field Day	**Vinnie Sallustio, N4NYY**
Hamfest	**Sheldon Parker, K2MEN and Bill Price, NJ2S**
Health, Welfare, & Silent Keys	**Bill Price, NJ2S**
Hospitality	**Jeff Garth, WB2ZBN**
Membership	**Bob Fields, KC6AOH**
Membership Badges	**Chuck Colabrese, WA2TML**
Nominations	**Tony Starr, K3TS**
Publicity	**Bob Fields, KC6AOH**
Repeaters	**Herb Dyer, KT2Y**
W2MMD Clubhouse Site	**Al Arrison, KB2AYU**

Activity Committees	Committee Chairs
Awards & Certificates	**Robin Herrmann, KD2LSH**
Club Publications & Historian	**Jeff Garth, WB2ZBN**
Contests	**Tony Starr, K3TS**
DX	***Open Chair***
GCARC Family Picnic	**Laurie Love, KD2EYW**
GCARC Foxhunts	**Jim Wright, N2GXJ**
GC-ARES Emergency Coordinator	**Karl Frank, W2KBF**
Holiday Dinner Party	**Jennifer Robinson, KD2EYR**
License Testing/VEC Liaison	**Gary Reed, N2QEE**
Membership Roster Database	**Jeff Garth, WB2ZBN**
Programs : Meetings & Tech Saturdays	**Jeff Welsh, KD2AZI**
Radio Nets	**Jim Clark, KA2OSV**
Technical	**Jon Pearce, WB2MNF**
W2MMD License Trustee	**Darrell Neron, AB2E**
W2MMD Special Event Station	**Mark Gottlieb, KK2L**

GCARC <*at*> Mailman <*dot*> QTH <*dot*> Net e-mail reflector guidelines

1.**No attachments** (e.g. pictures, files) are allowed on the reflector.

2.If you have Club-related pictures that you would like to share, you can send them to the webmaster, he will put them on the website and will send out a general e-mail to all the members.

3.Otherwise, the pictures will have to be sent to the members' addresses.

4.URLs/Hyperlinks are acceptable on the reflector.

5.Do not send any messages with e-mail addresses in the **BCC** (**Blind Carbon Copy**) field. The message will be rejected. Use only the **To:** or **CC:** fields.

6.Members are subscribed to the reflector using the member's e-mail address from the roster database. You must use that address when sending an e-mail via the reflector.

7.If you use another address on the reflector, the message will get rejected or "*bounced*", because the reflector does not recognize that address.

8.Whenever a message sent to reflector is rejected or *"bounced"* for various reasons, the administrator has to log-in to the Mailman.QTH website and approve the message. If the admin recognizes the address as belonging to a Club member, the message is accepted and passed on to the reflector.

For more information about the e-mail reflector, goto : **www.mailman.qth.net**

The W2MMD Repeaters

2 Meter Repeater
Output : 147.180 MHz
Input : 147.780 MHz
Offset : +600 kHz - PL : 131.8 Hz
(Conventional FM plus C4FM Capability)
EchoLink : W2MMD-R

70 cm Repeater
Output : 442.100 MHz
Input : 447.100 MHz
Offset : +5 MHz - PL : 131.8 Hz
(Conventional FM plus C4FM Capability)

The above 2 repeaters are all
located in Pitman, NJ
GPS : 39.728481°, -75.131088°

1.25 Meter Repeater
Output : 224.660 MHz
Input : 223.060 MHz
Offset : -1.6 MHz - PL : 131.8 Hz
Location : Sewell, NJ
GPS : 39.746738°, -75.077094°

SKYWARN™ Net
Sunday @ 1930 : 147.180 MHz Repeater

Gloucester County ARES/RACES Net
Sunday @ 2000 : 147.180 MHz Repeater

Monday Night 2 Meter Digital Training Net
Every Monday @ 1900 Hours

Tuesday Morning 2M Rag Chew Net
Every Tuesday @ 1100 Hours

Thursday Night 2M Rag Chew Net
Every Thursday @ 2000 Hours

Monday Night 10M Rag Chew Net
Every Monday @ 2000 Hours
Tune in on 28.465 MHz or 28.475 MHz

Meeting Calendar

General Membership Meeting
Wednesday, June 2, 2021
1930 Hours
Live & In-Person
PIZZA Night
Also Live on ZOOM

Board of Directors Meeting
Wednesday, June 16, 2021
1900 Hours
ZOOM Meeting

"The big thing about being in a club and being a "Ham" is to help each other when there is a need "
- W2SEF

*** Badges ***

Need a new or replacement badge
Contact "The BadgeMan"

Chuck Colabrese, WA2TML
colabrese <*at*> comcast <*dot*> net

Question Pool Answers : G6A05:C; G6A06:B; G6A07:A; G6A08:D; G6A09:B; G6A10:A; G6A11:C; G6A12:A; G6A13:D; G6A14:D; G6B01:C; G6B02:B